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PART II—Section 3—Sub-section (ii)

प्राप्तिकार से प्रकाशित

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इस भाग में भिन्न पृष्ठ संलग्न ही जाती हैं जिसने कि यह ग्रन्थ संग्रहन के रूप में रखा जा सके।

Separate paging is given to this Part in order that it may be filed as a separate compilation.

MINISTRY OF FOREIGN TRADE AND SUPPLY

NOTIFICATION

New Delhi, the 19th March 1969

S.O. 1151.—Whereas the Central Government is of the opinion that in exercise of the powers conferred by section 6 of the Export (Quality Control and Inspection) Act, 1963 (22 of 1963), the light engineering products specified in Annexure I to this notification should be subject to inspection prior to export;

And whereas the Central Government has formulated the proposals specified below for the said purpose and has forwarded the same to the Export Inspection Council as required by sub-rule (2) of rule 11 of the Export (Quality Control and Inspection) Rules, 1964;

Now, therefore, in pursuance of the said sub-rule, and in supersession of the notifications of the Government of India in the Ministry of Commerce S.O. 3031, dated the 20th September, 1965, S.O. 1034, dated the 28th March, 1966 and S.O. 2614, dated the 20th August, 1966, the Central Government hereby publishes the said proposal for the information of the public likely to be affected thereby.

Notice is hereby given that any person desiring to forward any objections or suggestions with respect to the said proposals may forward the same within thirty days of the date of publication of this notification to the Export Inspection Council, "World Trade Centre", 14/1-B, Ezra Street, 7th floor, Calcutta-1.

Proposals

- To notify that the light engineering products specified in Annexure I to this notification shall be subject to quality control and inspection prior to export;

- (2) To specify the type of inspection in accordance with the draft Export of Light Engineering Products (Inspection) Rules, 1969, set out in Annexure II to this notification as the type of inspection which would be applied to such light engineering products prior to export;
- (3) To recognise the specifications as declared by the exporter to be the agreed specifications of the export contract for the light engineering products subject to a minimum of the specifications as set out in Annexure III to this notification as the standard specifications for the light engineering products;
- (4) To prohibit the export, in the course of international trade, of the light engineering products aforesaid unless the same are accompanied by a certificate issued by one of the inspection agencies recognised for the purpose under section 7 of the Export (Quality Control and Inspection) Act, 1963 (22 of 1963) to the effect that the consignment of such light engineering products satisfies the conditions relating to quality control and inspection and is export-worthy.

2. Nothing in this notification shall apply to the export by land, sea or air or samples of the light engineering products aforesaid, the F.O.B. value of which does not exceed rupees one hundred to prospective buyers.

3. This notification shall come into force on the.....

ANNEXURE I

[See sub-paragraph (1) of paragraph 1]

I. Household Articles

1. Brass utensils.
2. Copper utensils.
3. Mild steel buckets.
4. Oil pressure lanterns.
5. Oil pressure stoves.
6. Scissors.
7. Umbrellas.

II. Builder's Hardware

1. Door handles.
2. Door sprint (rat tail type).
3. Drawer locks, cup-board locks and box locks.
4. Fanlight catch.
5. Barbed wire.
6. Gharmellas.
7. Hasps and staples.
8. Hinges.
9. Mild steel wire nails.
10. Mortice locks
11. Pad locks.
12. Rim latches.
13. Sliding door bolts for use with padlocks.
14. Tower bolts.
15. Wire gauze.

III.

1. Bread knives.
2. Butcher's knives.
3. Butter knives and fish knives.
4. Carving knives.
5. Cook's knives.
6. Forks (table, fish, pastry and serving).

7. Pocket knives.
8. Spoons.
9. Table knives, dessert knives and fruit knives.

ANNEXURE II

[See sub-paragraph (2) of paragraph 1]

Draft rules proposed to be made under section 17 of the Export (Quality Control and Inspection) Act, 1963

1. Short title and commencement.—These rules may be called the Export of Light Engineering Products (Inspection) Rules, 1969.

(2) They shall come into force on the 1969.

2. Definitions.—In these rules—

- (a) 'Act' means the Export (Quality Control and Inspection) Act, 1963 (22 of 1963).
- (b) 'Agency' means any one of the Inspection Agencies recognised under section 7 of the Act.
- (c) 'Light engineering products' means any of the articles mentioned in Schedule I to these rules.

3. Basis of inspection.—Inspection of light engineering products for export shall be carried out with a view to seeing that the light engineering products conform to the standard specifications recognised by the Central Government under section 6 of the Act. Sampling shall generally be done as per the Table mentioned in Schedule II to these rules. If, however, in the opinion of the Agency, the consignment is not of uniform quality, the scale of sampling may be increased at the discretion of Agency.

4. Procedure of inspection.—(1) Exporters intending to export any of the light engineering products aforesaid shall give intimation in writing of his intention so to do and submit along with such intimation a declaration as to the agreed specification of the export contract giving details of all the technical characteristics to any one of the Agencies, to enable it to carry out the inspection in accordance with rule 3. They shall, at the same time, endorse a copy of such intimation for inspection to the nearest office of the Export Inspection Council (hereinafter referred to as the Council) either at 14/1-B, Ezra Street (7th floor), Calcutta-1 or at Mani Mahal, 2nd floor, 11/21, Mathew Road, Bombay-4.

(2) Every intimation and declaration under sub-rule (1) shall reach the office of the Agency not less than two weeks before the expected date of shipment.

(3) On receipt of the intimation and declaration under sub-rule (2), the Agency shall carry out the inspection of light engineering products in accordance with rule 3 and the instructions, if any, issued by the Council in this regard.

(4) After completion of inspection, the Agency shall immediately seal the packages in the consignment in a manner as to ensure that the sealed goods cannot be tampered with.

(5) When the Agency is satisfied that the consignment of light engineering products comply with the requirements of rule 3, it shall issue within two days after the completion of inspection a certificate to the exporter declaring that the consignment satisfies the conditions relating to quality control and inspection and is export-worthy. The Agency shall simultaneously endorse a copy of such certificates to the Council.

5. Place of inspection.—Inspection of light engineering products for the purposes of these rules, shall be carried out—

- (a) at the premises of the manufacturer; or
- (b) at the premises at which the goods are offered by the exporter, provided that adequate facilities for the purpose exist therein.

6. Inspection fee.—Subject to a minimum of rupees thirty per visit, for one or more consignments of any particular item, a fee at the rate of twenty paise for every hundred rupees of the f.o.b. value of such consignments shall be paid by the exporter to the Agency as inspection fee under these rules.

7. Appeal.—(1) Any person aggrieved by the refusal of the Agency to issue a certificate under sub-rule (5) of rule 4 may, within ten days of the receipt of the communication of such refusal by him, prefer an appeal to a panel of experts

consisting of not less than three persons, as may be appointed for the purpose by the Central Government.

- (2) The quorum for the panel shall be three.
- (3) The decision of the panel on such appeal shall be final.

SCHEDULE I

I. Household Articles

1. Brass utensils.
2. Copper utensils.
3. Mild steel buckets.
4. Oil pressure lanterns.
5. Oil pressure stoves.
6. Scissors.
7. Umbrellas.

II. Builder's Hardware

1. Door handles.
2. Door spring (rat tail type).
3. Drawer locks, cup-board locks and box locks.
4. Fanlight catch.
5. Barbed wire.
6. Ghambellas.
7. Hasps and staples.
8. Hinges.
9. Mild steel wire nails.
10. Mortice locks.
11. Pad locks.
12. Rim latches.
13. Sliding door bolts for use with padlocks
14. Tower bolts.
15. Wire gauze.

III. Cutlery

1. Bread knives.
2. Butcher's knives.
3. Butter knives and fish knives.
4. Carving knives.
5. Cook's knives.
6. Forks (table, fish, pastry and serving).
7. Pocket knives.
8. Spoons.
9. Table knives, dessert knives and fruit knives.

SCHEDULE II Sampling Table

Consignment size	(1)	For visual & dimensional inspection (A)	All other tests (B)	(2)		(3)	
				Permissible No. of defectives for A of Col. 2	For B of Col. 2	Permissible No. of defectives for A of Col. 2	For B of Col. 2
Up to 25	.	.	.	8	3	0	0
26 to 50	.	.	.	13	3	1	0
51 to 100	.	.	.	20	5	1	0

(1)	(2)	(3)
101 to 150	32	2
151 to 300	50	3
301 to 500	80	5
501 to 1000	125	7
1001 to 3000	200	10
3001 to 10,000	315	14
10,001 and above	500	21

ANNEXURE III

I. Household Articles

1. Brass utensils.
2. Copper utensils.
3. Mild steel buckets.
4. Oil pressure lanterns.
5. Oil pressure stoves.
6. Scissors.
7. Umbrellas.

II. Builder's Hardware

1. Door handles.
2. Door spring (rat tail type).
3. Drawer locks, cup-board locks and box locks.
4. Fanlight catch.
5. Barbed wire.
6. Ghamellas.
7. Hasps and staples.
8. Hinges.
9. Mild steel wire nails.
10. Mortice locks.
11. Pad locks.
12. Rim latches.
13. Sliding door bolts for use with padlocks.
14. Tower bolts.
15. Wire gauze.

III. Cutlery

1. Bread knives.
2. Butcher's knives.
3. Butter knives and fish knives.
4. Carving knives.
5. Cook's knives.
6. Forks (table, fish, pastry and serving).
7. Pocket knives.
8. Spoons.
9. Table knives, dessert knives and fruit knives.

I. HOUSEHOLD ARTICLES**1. SPECIFICATION FOR BRASS UTENSILS**

1. Brass utensils shall be defined as brass wares (with or without art carvings which can be used while eating, drinking, cooking, serving or storing of food and drinks including water.

2. Utensils shall be manufactured from brass sheet or strip or circle or casting which is having bright, clean and smooth surface, free from undue discolouration and scratches. The sheet shall also be free from buckles and sponginess. Further, test piece taken from sheet, strip or circle or finished utensil made thereof shall meet the following bend test without showing fracture or development of cracks on the outer surface:

- (a) Hot Bend Test—The test piece shall, when at red heat, be bent through an angle of 180° and hammered close;
- (b) Cold Bend Test—The test piece shall, after annealing and when cold, be bent through an angle of 180° with an internal radius equal to the thickness of test piece, the axis of the bend being at right angles to the direction of rolling.

2.1. Cast brass utensils shall be cast from good quality brass and shall be free from porosity, blow holes, cold shuts, distortion and other harmful defects.

2.2. The material of the finished utensils shall be homogeneous and not contain any ingredients which are harmful and injurious to health, the amount of lead content not exceeding 0.3 per cent.

3. Thickness of sheet to be used for the fabrication of utensils, shape, dimensions and other constructional details shall be as per the agreement between the buyer and the exporter and shall be uniform for each lot of a particular variety of utensils in the consignment.

4. All joints shall be finished with high degree of smoothness and shall be soundly brazed or soldered and a suitable test shall be carried out on the utensils to ascertain its leak proofness.

5. All the utensils shall be finished smooth and sharp edges rounded off/deburred.

6. Utensils may be tinned/plated, if required by the buyer. Tinning/plating in this case shall be smooth and uniform.

7. Utensils shall be packed in accordance with the stipulation of the buyer in this regard and in such a manner as to ensure the safe arrival of the utensils to the destination without any damage.

7.1. The packages weighing upto 50 kg. shall be able to withstand a drop from a height of 190 cm. without any damage to the contents inside or package itself. The packages shall also be adequately protected against adverse effects of weather and moisture contamination.

2. SPECIFICATION FOR COPPER UTENSILS

1. Copper utensils shall be defined as copper wares (with or without art carvings) which can be used while eating, drinking, cooking or storing of food and drinks including water.

2. The utensils shall be manufactured from copper sheet or strip or circle or casting which having clean and smooth surface, free from black oxide, undue discolouration and scratches. The sheet shall also be free from buckles and sponginess. Further, test piece taken from the sheet or from the finished utensils shall meet the following bend test.

The edges of the test piece shall be carefully rounded and smoothed longitudinally. The size of the test piece shall be sufficient to enable the double closebend test to be carried out. The test piece shall be bent through an angle of 180° , closed and flattened. The double thickness of the metal shall then be bent through 180° closed and flattened; the axis of the second being at right angles to that of the first bend. The material shall show no fracture or signs of cracking on the convex surface of the bends.

3. Cast copper utensils shall be cast from good quality copper free from porosity, blow holes, cold shuts, distortion and other harmful defects.

4. The material of the finished utensils shall not contain any harmful or injurious ingredients, the amount of lead and arsenic content not exceeding 0.1 per cent each.

5. Thickness of sheet (gauge) to be used for fabrication of utensils, shape, dimensions and other constructional details shall be as per the agreement between the buyer and the exporter.

6. All joints shall be finished with high degree of smoothness and shall be soundly brazed/soldered and a suitable leak test shall be carried out on each utensil to ascertain its leak proofness.

7. All the utensils shall be finished smooth and sharp edges rounded off/deburred.

8. Utensils may be tinned/plated. Tinning/plating shall be smooth and uniform.

9. Utensils shall be packed in accordance with the stipulation of the buyer in this regard and in such a manner as to ensure the safe arrival of the utensils to the destination without any damage.

9.1 The packages weighing upto 50 kg. shall also be able to withstand a drop from a height of 190 cm. without any damage to the contents inside or package itself. The packages shall also be adequately protected against adverse effects of weather and moisture contamination.

3. SPECIFICATION FOR MILD STEEL BUCKETS

1. The buckets shall be manufactured from black sheet or plain galvanised sheet as specified by the buyer. The sheet used for buckets shall not be thinner than 24 SWG or 0.559 mm.

2. The overall dimension and other constructional details shall be according to the agreement between the buyer and the exporter and shall be uniform for each lot of a particular type of bucket in the consignment. However, the thickness of the sheet for the year shall not be less than 2.0 mm. or 14 SWG.

3. All parts of the bucket including rivetting shall be finished smooth and sharp edges rounded off. The buckets shall be free from all constructional defects. The handles of the buckets shall be uniform in shape and the diameter of handles shall not be less than 10 mm.

4. Black sheet buckets shall be hot dip galvanised after manufacture and the galvanising shall be uniform. The galvanised coating shall be free from blisters, grittiness, stains and bare spots.

5. The bucket shall be tested for leak proofness, by pressing the dry empty bucket with its top facing upwards, down the water vertically. If any water enters the bucket it shall be rejected. The bucket shall then be withdrawn, reversed (with top downwards) and again pressed down the water vertically. Should any air bubble be seen escaping through the water, the bucket shall be filled with water to the brim and kept for two hours. It shall not show any sign of leakage.

6. Unless otherwise required by the buyer each bucket shall carry the name of the manufacturer or the brand name, the size and the country of origin.

7. Buckets shall be packed in accordance with the stipulation of the buyer in this regard and in such manner as to ensure the safe arrival of the buckets to the destination without any damage.

7.1. The packages weighing upto 50 kg. shall be able to withstand a drop from a height of 190 cm. without any damage to the contents inside or the package itself. The packages shall also be adequately protected against adverse effects of weather and moisture contamination.

4. SPECIFICATION FOR OIL PRESSURE LANTERNS

1. The materials used in the manufacture of different parts shall be such as to ensure good performance of the lantern throughout its reasonable life.

2. Design, dimensions and construction of lanterns shall be according to the agreement between the buyer and the exporter.

3. Lanterns shall be so constructed as to satisfy the following:

- (a) Those parts of the oil pressure lanterns which are subject to pressure in operation and are fabricated from a material prone to season-cracking, shall be stress relieved, to avoid failure through this cause.
- (b) The fuel container fitted with oil filler cap and burner assembly, but without pressure gauge, shall be tested by the manufacturer to a pressure of 2.5 kgf./cm^2 . It shall not show any sign of leakage, deformation or damage.
- (c) The bottom plate of the fuel containers shall be securely fixed to the upper portion. The tank shall be so constructed that no permanent distortion takes place under normal conditions of use.
- (d) The vaporiser may be straight or L-shaped. The upper and the lower portions of the vaporiser tube shall be joined by means of union joint. The construction of the unit shall be such that the parts readily fit into their correct positions and are interchangeable. The assembly of the vaporiser shall be such that the fuel vapour is thrown centrally inside the mixing tube.
- (e) All machined parts shall be free from burrs.
- (f) The poking rod shall have a sliding fit in the upper part of the vaporiser tube so that the oil goes from oil container to nipple through the coil pipe and not directly upwards.
- (g) The non-return valve and the pump washer assembly shall be removable. When specified by the buyer pump knob shall be made of non-conducting material.
- (h) Mantles shall be strong. They shall not unduly shrink after the first burning, and shall be capable of withstanding shocks received during normal handling of lanterns.
- (i) A red mark on the pressure gauge shall indicate the pressure at which the lantern is intended to work namely, 2 kgf./cm^2 .
- (j) The fuel container shall be fitted with an effective means for allowing the operator to release the pressure within the container safely and quickly while the lantern is alight. The pressure gauge, oil filler and air release screw may be combined in one.
- (k) All washers shall be sufficiently resistant to heat and shall not become tacky and shall be leak-proof. These shall be easily replaceable and shall provide air-tight joint.
- (l) The threaded mating components shall have either a medium or free class of fit, depending on their applications.
- (m) The lantern when empty shall be capable of being tilted in any direction to an angle of 15° from the vertical without overturning on being released.

4. One fuel container, without burner pump valve and pressure gauge shall be selected from the consignment of the same type and size at random in a proportion of 1 to 500. For a consignment of less than 500 in number, one sample will be drawn. It shall be subjected to an internal hydraulic pressure of 5 kgf./cm^2 for a period of 5 minutes. The container shall not show any sign of leakage. The container shall be tested for bursting at a hydraulic pressure of 8 kgf./cm^2 . It shall neither burst nor unduly distort. Slight leakage of the hydraulic fluid shall however be permissible provided the pressure is capable of being maintained for a duration of not less than 5 minutes.

5. The mean horizontal luminous intensity of the lantern when determined by the method in Appendix to this clause, shall be not less than the rated luminous intensity given in candelas with a tolerance of minus five percent.

6. The lighting efficiency of lanterns, which is the ratio of the mean horizontal candle power to the weight in grams of fuel consumed per hour, shall be not less than 3.

7. With the fuel container filled 75 percent of its capacity the lantern shall be subjected to burn. During the period of test the pressure shall be retained at 2 kgf./cm^2 . The duration of burning shall be not less than $5\frac{1}{2}$ hours.

8. The surface temperature of any part of the lantern that may be necessary to touch during its operation shall not exceed 60°C, and shall preferably be lower. The length of the carrying handle shall be such that when a piece of black card, 100 × 50 mm. is held horizontally 25 mm. below the top of the handle in still air, the black card shall not attain a temperature exceeding 66°C.

9. The lanterns shall function properly if exposed to a wind velocity of 70 km. per hour for a period of not less than 5 minutes.

10. The lanterns shall be stamped with their rated luminous intensity in candelas; unless otherwise required by the buyer, the name of the manufacturer or brand name and the country of origin shall also be marked on each lantern.

11. Each lantern shall be supplied with:

- (a) a spirit can,
- (b) a spanner,
- (c) a nipple,
- (d) two cleaning needles,
- (e) an oil cap washer,
- (f) three mantles,
- (g) a needle key,
- (h) a pump washer, and
- (i) a pamphlet containing manufacturer's instructions for use.

11.1. Each lantern with its spares and accessories shall be packed in a strong card board box lined with water proof paper, the hood being protected by a card board ring. Each package containing glass chimney shall be marked with the words "Glass, Handle with Care".

12. Lanterns shall be packed in accordance with the stipulation of the buyer in this regard and in such a manner as to ensure the safe arrival of the lanterns, to the destination without any damage.

12.1. The packages weighing upto 50 kg. shall be able to withstand a drop from a height of 190 cm. without any damage to the contents inside or the package itself. The packages shall also be adequately protected against adverse effects of weather and moisture contamination.

APPENDIX TO CLAUSE No. 5

Measurement of mean horizontal luminous intensity

1. Photometric Equipment.

1.1. The mean horizontal luminous intensity of the lantern shall be measured against a metal filament sub-standard electric lamp, mounted on a standard photometer bench, with a suitable form of photometer head;

alternatively, a photographic exposure meter shall be used to test the conformity of the clause after suitably calibrating the exposure meter with a standard photometer.

2. Procedure for measurement.

2.1. The fuel container of the lantern shall contain approximately 75 per cent of the amount of fuel held when full and the glass globe of the lantern shall be cleaned before the commencement of the test.

2.2. The lantern shall be lit and allowed to burn at the working pressure of 2 kgf./cm² for at least half-an-hour to attain a steady condition.

2.3. The lantern shall be mounted on a table fixed in one of the carriages of the photometer bench. The middle portion of the flame, photometer head and the sub-standard electric lamp, shall be in the same horizontal plane and the photometer head shall be placed perpendicular to the incident light from the flame head. The sub-standard lamp and the photometer head shall be kept fixed at any convenient position on the bench.

2.4. The lantern shall be moved to and from one side of the photometer head, until the position of balance is found. Measurement shall be made in a horizontal place by changing the position of lantern in four directions at right angles to the axis of the appliance, differing by 90 degrees. A number of readings in each direction shall be taken and the average of all these measurements in the four directions shall be taken as the final value.

2.5. The temperature and the relative humidity of the test room shall be reported along with the test.

5. SPECIFICATION FOR OIL PRESSURE STOVES

1. The materials used in the manufacture of different parts shall be such as to ensure good performance of stoves throughout their reasonable life.

2. The design, dimensions and construction of stoves shall be according to the agreement between the buyer and the exporter.

2.1. Stoves shall be so constructed as to satisfy the following:—

- (a) Those parts of the Oil pressure stoves which are subject to pressure in operation and are fabricated from the material prone to season cracking shall be stress-relieved after fabrication but before soldering, to avoid failure.
- (b) The fuel container, fitted with pump valve, burner and fuel cap shall be tested by the manufacturer to an internal air pressure of 2.5 kgf./cm². It shall not show any sign of leakage, deformation or damage.
- (c) It shall be so made as to be firm on its base, the legs shall be so fitted as to have a bottom of the container at least 13 mm. clear of the surface on which the stove stands.
- (d) All metal-to-metal burner joints shall be soundly brazed and the burner shall be such that the fuel jet plays centrally and vertically to the burner plate. In the case of silencer burner, the holes shall be so spaced that the flame burns without producing an appreciable hissing sound.
- (e) All machined parts shall be free from burrs.
- (f) Sufficient opening shall be provided in the burner assembly to allow free access of the pricker to the fuel orifice.
- (g) The pump shall be of sound construction and fitted with a non-return valve which shall be leak-proof. The non-return valve and the pump washer assembly shall be removable.
- (h) All washers shall be sufficiently resistant to heat and shall not become tacky on use. These shall be easily replaceable and shall provide air-tight joint.
- (i) The fuel container shall be fitted with the pressure release screw for releasing the pressure inside the container quickly and safely.
- (j) The matting of threaded components shall be of free class fit depending on their applications.
- (k) The stove when empty, shall be capable of being tilted in any direction to an angle of 15° from the vertical, without overturning on being released.
- (l) The fuel container and other brass parts shall be finished bright. Residues of the solder flux similar corrosives shall be removed during manufacture to prevent later corrosion. The legs shall be tinned before soldering. The pump rod shall be cadmium plated. The top ring shall be gold lacquered.

3. The container without burner shall be subjected to an internal hydraulic pressure of 12 kgf./² for a period of 3 minutes. The container shall not show any sign of leakage.

4. Thermal efficiency of the stove shall not be less than 50 per cent.

5. The surface temperature of any part of the stove that may be necessary to touch during the operation of the appliance shall not exceed 60°C.

6. Unless otherwise required by the buyer, each stove shall be marked with name of the manufacturer or the brand name, size and the country of origin.

7. Each stove shall be supplied with:

- (1) a spanner in the case of portable stove,
- (2) a packet of three prickers suited to the type of stove,
- (3) a silencer wherever necessary,
- (4) one washer each for pump, oil, filler cap and burner,
- (5) a funnel, and
- (6) instructions for safe use.

7.1. Each stove with its accessories shall be packed in a strong card board box lined with water proof paper.

8. Stoves contained in the cardboard boxes shall be finally packed in accordance with the stipulation of the buyer in this regard and in such manner as to ensure the safe arrival of the stoves to the destination without any damage.

8.1. The packages weighing upto 50 kg. shall also be able to withstand a drop from a height of 190 cm. without any damage to the contents inside or the package itself. The packages shall also be adequately protected against adverse effects of weather and moisture contamination.

6. SPECIFICATION FOR SCISSORS

1. Material for scissors shall be as below:

- (a) Blades complete with handles or cutting portion of the blades only—
High carbon steel, Stainless steel.
- (b) Body and handles when welded or riveted to blades—
High carbon steel, Mild steel, Cast brass, Malleable iron, Stainless steel or 'Zamak' alloy.
- (c) Fasteners—Mild steel, Stainless steel.

2. Shapes and dimensions shall conform to the requirements as agreed to between the buyer and the exporter.

3. All forging, welding and riveting shall be sound. All joints shall be rigid and not loose. The rivets shall be filed and made flush.

4. Scissors shall be properly hollow-ground with the cutting edge true and adjusted for smooth operation. The blades shall be heat treated so as to give their cutting edges a hardness ranging from 600 to 700 VPN. The test point shall be as near as possible but not more than 13 mm. from the cutting edge.

5. In case of scissors having screws as fasteners, one blade shall be tapped to engage the screw. The threads shall be full and true. The other blade shall be counter-board to accommodate the head of the screw or bolt. After assembly, the ends of the shanks of fasteners shall be neatly deburred.

6. The scissors shall be free from cracks, seams, burrs, flaws and other defects. They shall be either plated uniformly or highly polished to prevent them from rusting. Screws and nuts wherever used shall be plated uniformly.

7. When plated, the plated surface shall be polished bright and shall be free from visible plating defects, such as blisters, pits, unplated spots, cloudy pits, cracks or stains. The plating shall adhere firmly to the base metal and shall be non-porous.

8. Scissors shall work freely without any undue play or stiffness. The cutting edges of the blades shall not override. Scissors shall be supplied sharpened ready for use.

9. Each pair of scissors shall be tested by cutting a piece of silk (weighing not less than 61 gm. per sq. metre) or cambric cloth, which shall not be kept taut during the test. In doing so the scissors shall be opened as wide as possible and then gradually brought to the closed position. The scissors shall cut the cloth neatly without drag or pull from pinch to tip and the cut portion of the cloth shall fall freely from the cutting edge.

10. An area of not more than 6.5 sq. cm. of the plated surface shall be rubbed rapidly and firmly for 15 seconds with a smooth metal implement. A suitable burnishing implement is a copper disc (e.g., a copper coin) used edgewise, and broadside. The pressure shall be sufficient to burnish the film of plating at every stroke, but not so great as to cut the deposit. The burnished area shall then be visually examined. The adhesion of the plating shall be deemed adequately if there is no indication of the deposit becoming detached from the base metal.

11. Cutting edges and unplated portions of the scissors shall be lightly smeared with mineral jelly.

12. Unless specified otherwise, each pair of scissors shall be wrapped in moisture-proof paper and packed in cardboard boxes. Cardboard boxes shall be labelled on one end to indicate the size of the scissors and the name or brand name of the manufacturer, etc.

13. Scissors contained in the cardboard boxes shall be finally packed in accordance with the stipulation of the buyer in this regard and in such manner as to ensure safe arrival of the scissors to the destination without any damage.

13.1. The packages weighing upto 50 kg. shall also be able to withstand a drop from height of 190 cm. without any damage to the contents inside or the package itself. The packages shall also be adequately protected against adverse effects of weather and moisture contamination.

(B) Specification for Cast Iron Scissors.

1. The cast iron used in the manufacture of scissors shall be of the quality appropriate to the working requirements of the scissors in respect of strength, machinability, resistance to wear, etc. The casting shall be dense and fine-grained, without local accumulation of graphite and white spots, and shall be free from fissures, hollows and porous spots visible to the naked eye.

2. Shapes and dimensions shall conform to the requirements as agreed to between the buyer and the exporter.

3. The finger loops shall be well proportioned, clean, and properly shaped. Scissors shall be properly finished with the cutting edges true and adjusted for smooth operation. The finished surface of the scissors shall not have 'burnt' marks due to excessive heating at the time of grinding or show any mechanical damage.

4. All joints shall be rigid and not loose. The rivets shall be properly formed and finished so as not to cause any injury.

5. The scissors shall be free from cracks, seams, burrs, flaws and other defects. They shall be finished smooth and the exposed surface shall be either plated uniformly or highly polished to prevent them from rusting.

6. When the scissors are plated, the plated surface shall be bright and free from visible plating defects, such as blisters, pits, unplated spots, cloudy pits, cracks or stains. The plating shall adhere firmly to the base metal and shall be non-porous.

7. Scissors shall work freely without any undue play or stiffness. The cutting edges of the blades shall not override. Scissors shall be sharpened and ready for use.

8. Scissors shall be tested by cutting a piece of silk (weighing not less than 60 gm. per sq. metre) or cambric cloth, which shall not be kept taut during the test. In doing so, the scissors shall be opened as wide as possible and then gradually brought to the closed position. The scissors shall cut the cloth neatly without drag or pull from pinch to tip and the cut portion of the cloth shall fall freely from the cutting edge.

9. The plated surface shall be rubbed rapidly and firmly with nail of the thumb. The adhesion of the plating shall be deemed adequate, if there is no indication of the deposits becoming detached from the base metal after such rubbing.

10. Where the scissors or part thereof is painted or enamelled or lacquered, the paint, enamel or lacquer shall have oil resisting properties. Such treated surface

shall be uniform, free from defects and the paint, enamel or lacquer shall not chip off on normal rubbing.

11. The scissors shall not break when allowed to fall flat freely on a concrete surface from a height of 75 cm.

12. Cutting edges and unplated portions of the scissors shall be lightly smeared with mineral jelly or applied with any other suitable rust preventive treatment.

13. Unless specified otherwise, each pair of scissors shall be wrapped in moisture-proof paper and packed in cardboard boxes. The packing paper shall be legibly and indelibly marked with the words "Made of cast iron".

14. Scissors contained in cardboard boxes shall be finally packed in accordance with the stipulation of the buyer in this regard and in such manner as to ensure the safe arrival of the scissors to the destination without any damage.

14.1. The packages weighing upto 50 kg. shall be able to withstand a drop from a height of 190 cm. without any damage to the contents inside or the package itself. The packages shall also be adequately protected against adverse effects of weather and moisture contamination.

7. SPECIFICATION FOR UMBRELLAS

1. This standard covers the requirements for complete umbrellas.

2. The design, shape and other dimensions of the umbrellas shall be in accordance with the agreement between the buyer and the exporter.

3. The main ribs and the stretcher ribs of the umbrellas shall be riveted in such a way that the movement is free but without shake or play.

4. The notch shall be rigidly and firmly fixed on the tube or stick. The ribs shall be fastened on the notch by means of brass, copper or galvanized wire so that ribs have no undue play or shake. The ends of the wire shall be turned in so that they do not touch the cloth of the umbrellas.

5. The stretcher ribs shall be firmly attached to the runner by means of brass, copper or galvanized wire. The runner shall be capable of being held at the top and lower springs in the opened and closed positions of the umbrellas except in the case of umbrellas with flexus ribs where the lower spring is not provided.

6. The cloth shall be suitably cut in panels and firmly stitched together by strong sewing thread of fast colour matching the shade of the cloth. The cloth shall be strengthened at the junction of the main and the stretcher ribs, that is over the clip on the main rib. The cloth shall also be strengthened at the top above the notch. In addition, a leather or waterproof washer shall be fitted over the cloth under the cap. The cloth shall be stitched firmly to the holes at the ends of the ribs and also suitably stitched at the junction of the main ribs. The seams shall not yield or bulge when the umbrella is opened. The cloth shall not be slack or show any other defect when the umbrella is fully opened. The stitching thread shall not be visible on the outer surface. Quality of the cloth shall be according to the buyer's requirements.

7. The cap shall be firmly fixed so as to prevent rain water to soak round the tube or the stick.

8. The ferrule shall be fixed firmly at the end of the stick wherever necessary.

9. The assembly of the cap on the handle shall be such that the cap is able to hold the ball ends of the main ribs in position when the umbrella is in closed position. The cap shall be such as to just allow the rib ends to be released, when it is pulled to its extreme position.

10. The umbrella shall be capable of being opened and closed smoothly without the runner becoming stuck. When opened, the umbrella shall have a symmetrical shape.

11. The umbrella cloth shall be provided with a suitable band with a ring and a button to be wrapped round when closed.

12. Either in the opened or closed position, each umbrella shall have a good and uniform shape. After opening and closing the umbrella for 50 times, the

ribs shall not show any deformation and the cloth shall not show any sign of opening or shakiness. In the case of nexus ribs, the umbrella shall close automatically when released from the open position.

13. Umbrellas shall be subjected to a pull of 10 kgs. on the handle. The handle shall not break or detach from the tube.

14. Each umbrella shall bear the maker's name, initials or brand name on the inside of the cloth. The size of the umbrella may also be marked, if desired by the purchaser. The umbrella may be marked 'water-proofed', if it is so and certified. Umbrellas shall be wrapped preferably in craft paper made into a suitable cone.

15. Umbrellas shall be packed in accordance with the stipulation of the buyer in this regard and in such manner as to ensure safe arrival of the umbrellas to the destination without any damage.

15.1. The packages weighing upto 50 kg. shall be able to withstand a drop from a height of 190 cm. without any damage to the contents inside or the package itself. The packages shall also be adequately protected against adverse effects of weather and moisture contamination.

II. BUILDER'S HARDWARE

1. SPECIFICATION FOR DOOR HANDLES

1. Materials for different types of door handles shall be as follows:

cast brass, cast iron, malleable cast iron, mild steel, aluminium alloy extruded rod and flat, aluminium alloy die castings and cast aluminium alloy.

2. Cast handles shall be free from blow holes, porosity, distortion, surface and other harmful defects. All sharp edges and corners shall be removed and finished smooth so as to facilitate easy handling.

3. Where the grip portion of the handle is joined with the base piece by mechanical means, the arrangement shall be such that the assembled handle shall have adequate strength comparable to that of integrally cast type handles.

4. The shape and dimensions shall be as per the agreement between the buyer and the exporter.

5. Unless otherwise required by the buyer, the finish shall be as follows:

5.1. Bright satin finish, nickel plated, copper oxidised, bronze finish for cast brass, and zinc alloy die cast handles.

5.2. Stove enamelled black or copper oxidised for cast iron and malleable cast iron handles.

5.3. Aluminium anodized to a bright, natural, mat or satin finish or dyed for aluminium alloy and cast aluminium alloy handles.

5.4. Stove enamelled black or plated for mild steel handles.

6. Wherever the surface has been painted, the paint film shall be uniform, adherent and hard dry.

7. The following plating adhesion test shall be carried out for the plated handles:

An area of not more than 6.5 sq. cm. of plated surface shall be rubbed rapidly and firmly for 15 seconds, with a smooth metal implement. A suitable burnishing implement is a copper disc (e.g. a copper coin) used edgewise and broad side. The pressure shall be sufficient to burnish the film or plating at every stroke but not so great as to cut the deposit. The burnished area shall then be visually examined. The adhesion of the plating shall be deemed adequate if there is no indication of the deposit becoming detached from the base metal.

8. Unless otherwise required by the buyer, the handles shall be marked with the name of the manufacturer or brand name and country of origin and the cartons containing the handles shall carry the following information:

- (a) Name of the manufacturer or brand name,
- (b) Type
- (c) Size
- (d) Quantity of handles and
- (e) Country of origin.

9. Each Door handle, unless otherwise stipulated by the buyer, shall be individually wrapped in tissue paper before being packed into cardboard boxes.

9.1. Door handles contained in the cardboard boxes shall be finally packed in accordance with the stipulation of the buyer in this regard and in such manner as to ensure the safe arrival of the door handles to the destination without any damage.

9.2. The packages weighing upto 50 kg, shall be able to withstand a drop from a height of 190 cm. without any damage to the contents inside or the package itself. The packages shall also be adequately protected against adverse effects of weather and moisture contamination.

2. SPECIFICATION FOR DOOR SPRING RAT-TAIL-TYPE

1. The door springs, rat-tail-type shall be of the following two types according to the material used.

- (a) Mild steel door spring.
- (b) Brass door spring.

2. Door springs shall be manufactured from such materials as will ensure reasonable life in actual usage. The various components shall be free from manufacturing defects.

3. Cast brass used in the manufacture of door springs shall be free from blow holes, porosity, distortion, surface and other harmful defects.

4. Rivets—The mild steel rivets used shall withstand the following test:

The rivet shall be held in a die with the head on the top. The head shall be flattened cold until its diameter is $2\frac{1}{2}$ times the diameter of the shank of the rivet. The flattened head shall not show any crack at the edges.

5. The steel spring shall be smooth and free from rust and scale.

6. The shape, design, dimensions and mechanism of door springs shall be as per the agreement between the buyer and the exporter.

7. The door springs shall withstand the following tests:

- (a) The tail rod when pushed through maximum possible limit, which is likely to occur during the normal use, and released, the operation being performed 20 times in quick succession, the spring shall not show any sign of damage or any permanent set during or on completion of the test.
- (b) The force required to be applied at the end of the tail rod to turn tail rod through 180° shall not exceed 15 kg.

8. Unless otherwise required by the buyer the finish shall be as follows:

8.1. In the case of mild steel door spring, casing, tail rod, spindle cap and base plate shall be stove enamelled black or copper oxidised. Spindle, roller plate and roller shall be bright finished and the springs if made of steel wire shall be copper oxidised or electro-galvanised.

8.2. In the case of brass door springs, casings, tail, spindle cap and base plate shall be bright finished or copper oxidised. Spindle, roller plate and roller shall be bright finished and the spring if made of mild steel wire shall be copper oxidised or electro-galvanised.

9. The springs shall be so assembled as to function smoothly, the screw holes in the base plate and roller plate shall be properly counter sunk to suit the wood screws. The riveted joints shall be sound in construction and rivet heads properly formed.

10. Unless otherwise required by the buyer the door springs shall be marked with the name of the manufacturer or brand name and country of origin and each packet or carton containing the door springs shall bear a label showing the name of the manufacturer or brand name, type, size quantity and country of origin.

11. Unless otherwise specified by the buyer each door spring shall be wrapped in strong craft paper and packed in card-board boxes.

11.1. Door springs contained in the cardboard boxes shall be packed in accordance with stipulation of the buyer in this regard and in such manner as to ensure the safe arrival of the door springs to destination without any damage.

11.2. The packages weighing upto 50 kg. shall be able to withstand a drop from a height of 190 cm. without any damage to the contents inside or the package itself. The packages shall also be adequately protected against adverse effects of weather and moisture contamination.

3. SPECIFICATION FOR DRAWER LOCKS, CUP-BOARD LOCKS & BOX LOCKS

1. The locks shall be manufactured from such materials as will ensure reasonable life in actual usage. Some of the common materials used for locks and the requirements to be met by them are indicated in the subsequent clauses.

1.1. Cast brass—Casting shall be free from blow holes surface and other defects.

1.2. Brass wire, phosphor bronze wire and spring steel wire—Wire used in the manufacture of spring shall satisfy the following tests:

The lever spring shall be fitted into the lever and shall be pressed down so as to touch the top edge of the lever and released. This shall be repeated six times. At the end of the test, the spring shall regain its original position.

2. The shape, design, dimensions and mechanism of locks shall be subject to agreement between the buyer and the seller.

3. The clocks shall be manufactured so as to have non-interchangeable keys in a batch consisting of a minimum of 50 locks.

4. The keys shall be made of mild steel or leaded tin bronze or brass and shall be either of the female or male type as specified by the buyer. All machined parts shall be free from burrs. The wards shall be evenly cut and clearly defined. The engaging ends of the key wards shall be rounded.

5. False (dummy) levers shall not be used. The levers shall work without any appreciable friction or shake on the pivot pin. The holes and slots in the levers shall be free from burrs. A cover plate shall also be provided when the levers do not completely fill the whole depth of the body.

6. All components of the locks and the keys shall be finished smooth to minimise frictional resistance in their working.

6.1. Unless specified otherwise, brass locks and keys shall be finished bright and aluminium alloy locks shall be anodized. The anodic film may be either transparent or dyed as specified by the buyer.

7. Unless otherwise required by the buyer, each lock shall be stamped with the following information:

- (a) Manufacturer's name or brand name;
- (b) Number of levers;
- (c) Size of lock and its serial number.

7.1. The key shall be stamped with the serial number of the lock to which it relates.

8. Each lock along with the keys shall be wrapped in a thin paper and packed in a cardboard box as per the requirements of the buyer. Unless otherwise required by the buyer each cardboard boxes shall be marked with the following information;

- (a) Manufacturer's name or the brand name
- (b) Type of lock
- (c) Size of the lock, and
- (d) Quantity in the package.

8.1. Locks contained in cardboard boxes shall be finally packed in accordance with the stipulation of the buyer in this regard and in such manner as to ensure safe arrival of the locks to the destination without any damage.

8.2. The packages weighing upto kg. shall be able to withstand a drop from a height of 190 cm. without any damage to the contents inside or the package itself. The packages shall also be adequately protected against adverse effects of weather and moisture contamination.

4. SPECIFICATION FOR FANLIGHT CATCH

1. Fanlight catch shall be manufactured from such materials as will ensure reasonable life in actual usage. Some of the common materials used for fanlight catch and the requirements to be met by them are indicated in the subsequent clauses.

1.1 Cast brass—The castings shall be clean and free from blow holes, porosity, distortion, surface and other harmful defects.

1.2. Aluminium alloy—The castings shall be clean and free from blow holes, porosity, harmful inclusion and other surface defects.

1.3. The steel spring shall be smooth and free from rust and scale.

1.3.1. When spring wire is supplied without any protective plating each spring coil shall be dipped in a suitable rust preventive oil to safeguard it against rusting during storage and normal use.

1.4. Mild steel wire—The mild steel wire used for hinge pin shall be cleanly drawn and shall be free from splits, surface flaws and other harmful surface defects.

1.5. Aluminium alloy wire—The aluminium alloy wire used as a pin in the aluminium alloy fanlight catch shall be sound and free from harmful defects.

2. Shape and dimensions of the fanlight catch shall be as per the agreement between the buyer and the seller.

3 Fanlight catch shall be well made, free from flaws and defects of any kind. The movement of the plunger shall be smooth, easy and square. The aluminium alloy hinge pin shall be hardanodized. The screw holes shall be clean and properly countersunk. The heads of the riveted hinge pin shall be well formed and shall allow the hook to function without any friction or undue play. All sharp edges and corners shall be removed.

4. Unless otherwise specified by the buyer the finish shall be as follows:

The aluminium alloy fanlight catches shall be anodised. The anodic film may be transparent or dyed as desired by the purchaser. For exterior use, where sunlight falls on the fittings, only light fast colour like light fast bronze or light fast gold or plain anodic finishes shall be employed.

4.1. The brass fanlight catch shall have satin or other finish as specified by the purchaser.

5. Unless otherwise required by the buyer, the handle shall be marked with the name of the manufacturer or brand name and country of origin.

6. Unless otherwise stipulated by the buyer, the fan light catch shall be wrapped in tissue paper or polythene film and packed in cardboard boxes.

6.1 Fanlight catches contained in the cardboard boxes shall be packed in accordance with the stipulation of the buyer in this regard and in such manner as to ensure the safe arrival of the fanlight catches to the destination without any damage.

6.2. The packages weighing upto 50 kg. shall be able to withstand a drop from height of 190 cm. without any damage to the contents inside or the package itself. The packages shall also be adequately protected against adverse effects of weather and moisture contamination.

5. SPECIFICATION FOR BARBED WIRE

1. The barbed wire shall be manufactured from galvanised steel wire having uniform zinc coating.

2. Size and type of wire shall be subject to agreement between the buyer and the exporter.

3. The barbs shall carry four points and shall be formed by twisting two point wires tightly round on one or both the line wires so as to give minimum 2 complete turns around the line wire or wires. The barbs shall be so finished that the four points are set and locked at right angles to each other. The points shall be sharp. The length of the barbs shall be as agreed to between the buyer and the exporter, but subject to a minimum of 15 mm each from the axis of the line wire. The barbs shall be uniformly spaced and the maximum deviation of spacing shall not be more than 10 per cent of the stipulated spacing of the barbs. Such deviations shall not occur more than 2 times in a length of wire covered by 20 barbs.

4. The line and point wires shall be circular in section, free from scale and other defects and shall be uniformly galvanised. The line wire shall be in continuous lengths, and shall not contain any welds other than those in the rod before it is drawn.

5. The line wire shall not show any sign of flaking or peeling of its zinc coating when coiled round a cylindrical bar of approximately ten times its diameter.

6. The line wire shall withstand wrapping and unwrapping eight turns round its own diameter, without fracture.

7. Unless otherwise required by the buyer, every reel of barbed wire shall be marked legibly on it the name of the manufacturer or brand name, diameters of the line and point wires, bar spacing and length and weight of the reel and the barbed wire shall be supplied in metal or wooden reels. Each reel of barbed wire shall be wound and fastened compactly.

6. SPECIFICATION FOR GHAMELLAS

1. Ghamellas shall be manufactured from cold rolled cold annealed sheets, capable of withstanding the following test:

'Suitable test pieces shall not break or develop cracks if doubled over when cold either by pressure or blows from a hammer until the internal radius is equal to the thickness of the test piece and the sides are parallel.'

2. The steel sheet to be used for the manufacture of ghamellas shall be not less than 30 BG (0.304 mm approx.). Other constructional details shall be subject to the agreement between the buyer and the exporter.

3. The shape and dimensions of the ghamellas shall be as agreed upon between the buyer and the exporter.

4. Ghamellas shall be finished smooth and sharp edges rounded off and shall be given a suitable preservation treatment for protection against rust.

5. Each ghamella shall carry the name of the manufacturer, brand name, size and the country of origin unless otherwise required by the buyer.

6. Ghamellas shall be packed in accordance with the stipulation of the buyer in this regard and in such manner as to ensure the safe arrival of the ghamellas to the destination without any damage.

6.1. The packages weighing upto 50 kg. shall be able to withstand a drop from a height of 190 cm. without any damage to the contents inside or the package itself. The packages shall also be adequately protected against adverse effects of weather and moisture contamination.

7. SPECIFICATION FOR HASPS AND STAPLES

1. Hasps and staples shall be manufactured from such materials as will ensure reasonable life in actual usage. Some of the common materials used for hasps and staples and the requirements to be met by them are indicated in the subsequent clauses.

1.1. Cast brass—The casting shall be clean and free from blow holes, porosity, distortion and other harmful defects.

1.2. Extruded section of brass used in the manufacture of brass hasps and staples shall be clean, smooth, free from surface defects, reasonably straight and free from twist. Further, fracture on extruded and drawn rods shall show freedom from piping and other defects.

2. Shape and dimensions of the hasps and staples and tolerances thereon shall be as per the agreement between the buyer and the exporter.

3. Hasps and staples, shall be well made and free from defects. Hinged pin shall be of mild steel in case of mild steel hasps and staples, and of brass in case of brass hasps and staples. Hinged pin may also be made of phospher bronze wire if so required by the buyer.

4. The movement of the hasp shall be free, easy and clear and shall not have play or shake. The hasp shall fit the staple correctly. The staples, except in the case of cast one, shall be riveted properly to its plate and the rivet head shall be properly formed. The ends of the hinged pin for the safety type hasps shall be riveted and properly finished. All screw holes shall be clean and countersinking shall be done for sheets thicker than and including 20 gauge thickness. All sharp edges and corners shall be removed.

5. Unless otherwise specified by the buyer, hasps and staples shall have finish as given below :

5.1. Mild steel hasps and staples—They shall be stove enamelled or painted.

5.2. Brass hasps and staples—They shall be oxidised or covered with clear lacquer after polishing as specified by the purchaser.

6. Unless otherwise required by the buyer each package or carton containing hasps and staples shall bear a label showing the name of the manufacturer or brand name, type, size, quantity and the country of origin.

7. Unless otherwise stipulated by the buyer, the hasps and staples shall be wrapped in waterproof paper and packed in cartons.

7.1. Hasps and staples packed in cardboard boxes shall be finally packed in accordance with the stipulation of the buyer in this regard and in such manner as to ensure the safe arrival of the hasps and staples to the destination without any damage.

7.2. The packages weighing upto 50 kg. shall be able to withstand a drop from a height of 190 cm. without any damage to the contents inside or the package itself. The packages shall also be adequately protected against adverse effects of weather and moisture contamination. :

8. SPECIFICATION FOR HINGES

1. The hinges shall be made from good quality material. Suitable test pieces of sheets used in manufacture of hinges shall bend either by pressure or by blows from a hammer through 180° around a thickness equal to that of the test piece without showing any sign of fracture or cracking on outside of the bent portion. Hinges made from cast brass shall not be subject to bend test.

2. The size, shape and dimensions shall be as agreed to between the buyer and the seller.

3. Hinges shall be well made, free from burns, flaws and other defects. The hinges made from cast brass shall be free from blow holes, casting and other surface defects. The movement shall be square, and the working shall be free and easy without any appreciable play or shake. The hole for hinge pin shall be central to the boss and shall be square. The hinge pin shall be firm and riveted or notched over, so that the heads are well formed. Screw holes on

sheets including and thicker than 20 gauge shall be countersunk and shall be suitable for the countersunk wood screws. All screw holes shall have a minimum gap of $2d$ between the centre of the hole and the edge of the hinge plate, where d is the diameter of the screw hole. The sides of the knuckle shall be straight at right angles to the flap.

4. Unless otherwise required by the buyer, each hinge shall be stamped with the manufacturer's name or brand name.

5. Unless otherwise stipulated by the buyer the hinges having bright finish shall be wrapped in wax paper or polythene film after applying anti-corrosive treatment. Hinges having other type of finish shall be wrapped in tissue paper. Suitable number of hinges shall be packed in cardboard boxes having the following information:

- (a) type
- (b) size
- (c) quantity
- (d) name of manufacturer and brand name, and
- (e) country of origin.

6. Hinges contained in the cartons shall be finally packed in accordance with the stipulation of the buyer in this regard and in such a manner as to ensure the safe arrival of the hinges to the destination without any damage.

6.1. The packages weighing upto 50 kg. shall also be able to withstand a drop from a height of 190 cm. without any damage to the contents inside or the package itself. The packages shall also be adequately protected against adverse effects or weather and moisture contamination.

9. SPECIFICATION FOR MILD STEEL WIRE NAILS

1. Nails shall be manufactured from mild steel wire. Suitable test pieces when cold shall not break or develop cracks when doubled over, either by pressure or by blows from a hammer, until the internal radius is equal to the diameter of the test piece and the sides are parallel.

2. The nails shall be machine made and may have die-marks on the neck. They shall be uniformly round in section, straight, free from wasters and shall have sharp points. The heads shall be properly formed and concentric with the shank.

3. The dimensions and shapes of the different types of wire nails which shall include all types of nails, panel pins, shall satisfy the respective requirements of agreement between the buyer and the exporter.

4. Wire nails shall be supplied bright finished, unless otherwise required to be galvanised.

5. Unless otherwise required by the buyer, all packages of nail's shall be marked with the following information:

- (a) Manufacturer's name or the brand name;
- (b) Type and finish of nail;
- (c) The size (length and diameter of shank) of naills; and
- (d) Net weight of the package.

6. Nails of different sizes and types shall be packed, in separate containers.

6.1. Unless otherwise required by the buyer the containers of mild steel wire nails shall be finally packed in accordance with the stipulation of the buyer in this regard and in such a manner to ensure the safe arrival of the wire nails to the destination without any damage.

6.2. The packages weighing upto 50 kg. shall also be able to withstand a drop from a height of 190 cm. without any damage to the contents inside or package itself. The packages shall also be adequately protected against adverse effects or weather and moisture contamination.

10. SPECIFICATION FOR MORTICE LOCKS (VERTICAL TYPE)

1. The locks shall be manufactured from such materials as will ensure reasonable life in actual usage. Some of the common raw materials used in the manufacture of locks are—

mild steel, cast brass, brass sheet, phosphor bronze, steel wire, steel plate; spring; leaded tin bronze; aluminium alloy castings, aluminium sheets, etc.

2. The shape, design, dimensions and mechanism of locks shall be subject to agreement between the buyer and the exporter.

3. The mortice locks shall be manufactured so as to have non-interchangeable keys in a batch consisting of a minimum of 60 locks.

4. Each lock shall be provided with two keys. Each key shall be either forged or punched from solid mild steel section leaded tin bronze or stainless steel or die-cast brass alloy. The wards of the keys shall be fully cut out to varying combinations, clearly defined and free from burrs. The engaging wards of key shall be rounded. The key shall function smoothly and without any appreciable friction.

5. Brass wire and phosphor bronze wire—These wires used in the manufacture of springs shall satisfy the following test:—

"The lever spring shall be fitted into the lever and shall be pressed down so as to touch the top edge of the lever and released. This shall be repeated six times. At the end of the test, the spring shall regain the original position and there will not be any permanent set."

6. Brass body shall be finished smooth. Steel body shall be given a suitable protective coating such as painting. Face plate and striking plate shall be finished smooth and polished bright. Where so desired by the buyer, face plate and striking plate may also be plated, anodized or oxidized.

7. Unless otherwise required by the buyer each locks shall be stamped with the following information:

- (a) Manufacturer's name or brand name;
- (b) Number of levers;
- (c) Size of lock;
- (d) Serial number of the lock.

7.1. The key shall be stamped with the serial number of the lock to which it relates.

8. Unless otherwise stipulated by the buyer each lock alongwith keys shall be wrapped in a thin paper and packed in a card board box carrying the following information:

- (a) name of the manufacturer or brand name
- (b) type of lock
- (c) size of lock
- (d) quantity and
- (e) country of origin.

8.1. Locks contained in the card board boxes shall finally be packed in accordance with the stipulation of the buyer in this regard and in such a manner as to ensure the safe arrival of the locks to the destination without any damage.

8.2. The packages weighing upto 50 kg. shall be able to withstand a drop from a height of 190 cm. without any damage to the contents inside or the package itself. The packages shall also be adequately protected against adverse effects of weather and moisture contamination.

11. SPECIFICATION FOR PADLOCKS

1. The locks shall be manufactured from such material as will ensure reasonable life in actual usage. Some of the common materials used for locks and the requirements to be met by these are indicated in the subsequent clauses.

1.1. Cast brass—The casting shall be free from blow holes, porosity, distortion, surface and other harmful defects.

1.2. Brass sheet—The brass sheet shall be well-rolled and free from surface defects and flaws.

1.3. Mild steel—The mild steel used in the manufacture of padlocks shall be such that the finished components, such as front and back plates, bodies, shackles, rivets, pins and keys shall satisfy the following bent test:

The material when cold shall withstand without developing cracks, being doubled over either by pressure or by blows from a hammer until the internal radius is equal to the diameter/thickness of the material and the sides are parallel.

1.4. Brass wire and phosphor bronze wire—Brass wire and phosphor bronze wire used in the manufacture of spring shall satisfy the following test:

The lever spring shall be fitted into the lever and shall be pressed down so as to touch the top edge of the lever and released. This shall be repeated six times. At the end of the test, the spring shall regain its original position.

2. The shape, design and mechanism of locks shall be subject to agreement between the buyer and the seller.

3. The locks shall be manufactured so as to have non-interchangeable keys in a batch consisting of a minimum 50 locks.

4. The keys shall be made of mild steel, leaded tin bronze, brass or hardened and tempered aluminium alloy and shall be either of the female or male type as specified by the buyer. The wards and dents of the keys must be evenly cut or drilled, clearly defined and free from burrs. The engaging ends of the key wards and dents shall be rounded and cleaned.

5. False (dummy) levers shall not be used. The levers shall work without any appreciable friction or shake on the pivot pin. The holes and slots in the levers shall be free from burrs. A cover plate made of cast brass or sheet brass or mild steel shall also be provided when the levers do not completely fill the whole depth of the body.

6. All components of the locks and the keys shall be finished smooth to minimise frictional resistance in their working.

6.1. Unless specified otherwise, brass locks and keys shall be finished smooth and lacquered or passivated. The shackle and key for brass padlocks, shall, however, be finished bright. Shackles shall be suitably case hardened when specified. These will move without friction and will not be very loose.

7. The padlocks when closed shall be held by shackle and five sharp blows shall be given on to a lead block with that side of the padlock on which the shackle is riveted. The padlock shall then be opened and test repeated by striking with the opposite side of the padlock after locking.

7.1. During or on completion of the test the padlock shall not show any sign of damage or defective functioning of padlock.

7.2. Each side of the padlock when closed with key removed shall be allowed to strike on a steel block with reasonable force two times. The lock shall not open during or after the test.

8. Each lock and key of security type locks shall be marked with a corresponding serial number either in code or otherwise.

9. Unless otherwise stipulated by the buyer each lock along with the keys shall be wrapped in a thin paper and packed in a card board box carrying the following information:

- (a) manufacturer's name or brand name,
- (b) type of lock,
- (c) size of lock,
- (d) No. of levers and
- (e) country of origin.

9.1. Locks contained in the card board box shall be finally packed in accordance with the stipulation of the buyer in this regard and in such a manner as to ensure the safe arrival of the locks to the destination without any damage.

9.2. The packages weighing upto 50 kg. shall be able to withstand a drop from a height of 190 cm. without any damage to the contents inside or package itself. The packages shall also be adequately protected against adverse effects of weather and moisture contamination.

12. SPECIFICATION FOR RIM LATCHES

1. The Rim latches shall be of the following two types:

- (a) Rim latches which open when the handle is turned in one direction.
- (b) Rim latches which open when the handle is turned any direction.

2. Latches shall be manufactured from such materials as will ensure reasonable life in actual usage. Some of the common materials used and the requirements to be met by these are indicated in the subsequent clauses.

2.1. Cast brass—Castings shall be free from blow holes, porosity, distortion, surface and other harmful defects.

2.2. The lever spring shall withstand the following tests:

The lever spring shall be fitted into the lever and shall be pressed down so as to touch the top edge of the lever and released. This shall be repeated six times. At the end of the test, the spring shall regain its original position, without any permanent set.

2.3. Leaded tin bronze—The follower casting, manufactured from leaded tin bronze shall be free from blow holes, porosity, distortion, surface and other harmful defects.

2.4. Aluminium alloy castings—Aluminium alloy castings used in the manufacture of rim latches shall be free from blow holes, porosity, distortion, surface and other harmful defects

3. The shape, design, dimensions and mechanism of rim latches shall be as per the agreement between the buyer and the exporter.

4. Unless required otherwise by the buyer, the brass latches shall have bright or satin finish and aluminium alloy latches shall have anodised finish. The anodic film may be either transparent or dyed as specified by the purchaser. The steel latches shall be painted with Black Japan, stove enamelled black or copper oxidised as specified by the purchaser. The latches may also be plated suitably. In case of plated latches, the following test shall be carried out to check the adhesion of the plating:

An area of not more than 6.5 sq. cm. of the plated surface shall be rubbed rapidly and firmly for 15 seconds with a smooth metal implement. A suitable burnishing implement is a copper disc (example a copper coin) used edgewise and broadside. The pressure shall be sufficient to burnish the film of plating at every stroke, but not so great as to cut the deposit. The burnished area shall then be visually examined. The adhesion of the plating shall be deemed adequate if there is no indication of the deposit becoming detached from the base metal.

5. The rim latches shall be so assembled as to function smoothly. All the joints (wherever applicable) shall be of sound construction. The assembled rim latches shall also satisfy the following requirements:

5.1. When the knob of the latch is turned, the latch bolt shall draw smoothly into the body and shall be within one millimetre from the face of the body.

5.2. When the latch bolt is pressed into the body by pressure the action shall be smooth and when fully pressed the latch bolt shall not project more than one millimetre from the face of the body.

6. Unless otherwise required by the buyer, the rim latches shall be marked with the name of the manufacturer or brand name and country of origin and each packet or carton containing the rim latches shall bear a label showing the name of the manufacturer or brand name, type, size, quantity and country of origin, and each packet or carton containing the rim latches shall bear a label showing the

name of the manufacturer or brand name, type, size, quantity and country of origin.

7. Unless otherwise stipulated by the buyer each rim latch shall be individually wrapped with tissue paper before being packed into card board boxes.

7.1. Rim latches contained in the boxes shall be packed in accordance with the stipulation of the buyer and in such a manner as to ensure safe arrival of rim latches to the destination without damage.

7.2. The packages weighing upto 50 kg. shall be able to withstand a drop from a height of 190 cm. without any damage to the contents inside or the package itself. The packages shall also be adequately protected against adverse effects of weather and moisture contamination.

13. SPECIFICATION FOR SLIDING DOOR BOLTS FOR USE WITH PADLOCKS

1. Sliding door bolts shall be manufactured from such materials as will ensure reasonable life in actual usage. Some of the common raw-materials used in the manufacture of sliding door bolts are:

Cast brass, malleable cast iron, mild steel, aluminium alloy, zinc alloy, etc.

2. Dimensions, shape and design shall be as per the agreement between the buyer and the exporter. The common types of sliding door bolts are—

- (a) plate type sliding bolts, and
- (b) clip or bolt type sliding bolts.

3. The sliding door bolts shall be free from manufacturing defects. All sharp edges and corners shall be removed and finished smooth. Sliding door bolts shall have smooth sliding action. Screw holes except in sheet thicknesses of thinner than 20 gauge shall be countersunk.

4. Unless otherwise specified the sliding door bolts shall have finish as given below:—

- (i) Brass—All parts shall be polished bright or plated.
- (ii) Malleable cast iron—Stove enamelled or copper oxidized.
- (iii) Mild steel—Bolts plates, straps and staple plate shall be stove-enamelled before assembly. Hasp and bolt shall be finished bright or plated.
- (iv) Aluminium alloy—Anodized to a bright natural, mat or satin finish or dyed.
- (v) Zinc alloy—Bright satin finish, nickel plated, copper oxidized and bronze finish.

5. The following plating adhesion test shall be carried out for plated sliding door bolts—

An area of not more than 6.5 sq. cm. of plated surface shall be rubbed rapidly and firmly for 15 seconds, with a smooth metal implement. Suitable burnishing implement is a copper disc (e.g. a copper coin) used edgewise and broad side. The pressure shall be sufficient to burnish the film or plating at every stroke but not so great as to cut the deposit. The burnished area shall then be visually examined. The adhesion of the plating shall be deemed adequate if there is no indication of the deposit becoming detached from the metal.

6. Unless otherwise required by the buyer, the sliding door bolts shall be marked with the name of the manufacturer or brand name, and the country of origin and these shall be wrapped in strong paper and packed in card board boxes having the following information :

- (a) name of the manufacturer or brand name,
- (b) size,
- (c) quantity,
- (d) country of origin.

6.1. The sliding door bolts contained in the card board boxes shall be finally packed in accordance with the stipulation of the buyer in this regard and in such a manner as to ensure the safe arrival of the sliding door bolts to the destination without any damage.

6.2. The packages weighing upto 50 kg. shall be able to withstand a drop from a height of 190 cm. without any damage to the contents inside or the package itself. The packages shall also be adequately protected against adverse effects of weather and moisture contamination.

14. SPECIFICATION FOR TOWER BOLTS

1. The tower bolts shall be manufactured from such materials as will ensure reasonable life in actual usage. The materials used in the manufacture of bolts shall be as follows:—

Mild steel, cast iron, malleable cast iron, brass (cast, rolled and extruded), zinc alloy, aluminium alloy, etc.

2. The shape, design and dimensions shall be subject to agreement between the buyer and the exporter.

3. Tower bolts shall be well made and shall be free from defects. The bolts shall be finished to the correct shape and shall have a smooth action. Screw holes except in sheet thickness of thinner than 20 gauge shall be countersunk. All sharp edges and corners shall be removed and finished smooth. The rivet heads used for joining the plate and the straps shall be properly formed and at the back rivet heads shall not protrude more than one millimetre.

4. Bolts shall have knob integral with the bolts or the knob may be fitted to the bolt with a pin. The knob may also be screwed and riveted and finished flush. In non-ferrous metal tower bolts and in tower bolts where either barrel or bolt is made of non-ferrous metals, a small spring and a ball shall be provided wherever required to enable smooth working. The plates and the straps after assembly shall be firmly riveted.

5. Bolts, staples and plates shall be free from defects. In case bolts are made from castings these shall be free from casting and other surface defects.

6. Unless otherwise specified, tower bolts shall have finish a given below:

6.1. Mild steel tower bolts—Bolts bright finished or plated and other parts stove enamelled.

6.2. Brass tower bolts—Bolts and barrel polished or plated and other parts stove-enamelled.

6.3. Aluminium alloy tower bolts—Bolt, barrel, plate and staples anodized. The anodic film may be either transparent or dyed as specified by the buyer.

6.4. Zinc alloy tower bolt—Bolt, barrel, plate and staples oxidized, bronzed or plated.

6.5. Cast iron tower bolts—Bolt and the barrel shall have a smooth finish, barrel may be plated or painted and the bolt may be plated or polished.

7. Unless otherwise required by the buyer each tower bolt shall be clearly marked with the name of the manufacturer or the brand name and the country of origin.

8. Unless otherwise stipulated by the buyer tower bolts shall be wrapped with a tissue paper or polythene film and packed in card board boxes carrying the following information:

- (a) Name of the manufacturer or brand name.
- (b) Type,
- (c) Size,
- (d) Quantity, and
- (e) Country of origin.

8. Tower bolts contained in the card board boxes shall be finally packed in accordance with the stipulation of the buyer in this regard and in such a manner as to ensure the safe arrival of the tower bolts to the destination without any damage.

8.2. The packages weighing upto 50 kg. shall also be to withstand a drop from a height of 190 cm. without any damage to the contents inside or package itself. The packages shall also be adequately protected against adverse effects of weather and moisture contamination.

15. SPECIFICATION FOR WIRE GAUGE

1. Wire gauze shall be manufactured from a wire made of annealed brass or bronze or galvanized mild steel wire. The wire shall be of the uniform cross-section. The wire used shall be clearly drawn, free from scales, inequalities, splits and soft spots and shall be of uniform ductility.

2. The gauze shall be regularly woven with enough number of equally spaced parallel wires in both warp and weft directions to produce uniform square or rectangular (as the case may be) meshes or openings. Both warp and weft wires shall be properly crimped or woven as the case may be to prevent shifting of the wires and to produce an even surface of the gauze without any distortion when finished. The wire gauze shall be properly selvedged by one or more wires in each edge wherever possible, taking due precaution that the gauze edges do not get distorted.

3. The dimensions of wire gauze shall normally be as given below in the Table. Gauze with other dimensions can, however, be exported subject to agreement between the buyer and the exporter.

TABLE

Dimensions of Wire Gauze

Grize Designation	Average width of aperture	Nominal Diameter of wire	
		mm.	Near SWG
160G	1.60	0.950	19 $\frac{1}{2}$
140G	1.40	0.710	22
120G	1.20	0.600	23
100G	1.00	0.600	23
85G	0.84	0.560	24
80G	0.79	0.520	24 $\frac{1}{2}$
70G	0.71	0.450	26
60G	0.59	0.425	27
50G	0.50	0.355	29
40G	0.42	0.280	31 $\frac{1}{2}$

NOTE—(a) Gauze designation indicates the approximate size of the square opening of the gauze in dekamicron, for example, a gauze designated as 100 G. means that the width of the opening of that gauze is approximately 1.00 mm.

(b) Wire gauze No. 160G. to 70G. may be made from galvanized mild steel wire, brass wire or bronze wire as specified by the buyer. For gauze No. 60 G., 50 G. and 40 G. either bronze wire or brass wire, as specified by the buyer shall be used. All the dimensions above are subject to a tolerance of ± 2 per cent.

(c) 140 G. is suitable for fly-proof screens. 120 G. and 100 G. are suitable for mosquito-proof screens.

3.1. The following tolerances shall be permitted on dimensions.

Overall length	± 2.5 cm
," width	± 0.5 cm
width of opening :—	
Openings upto and including 1 mm size	$\pm 5\%$
Openings above 1 mm. size	$\pm 3\%$

4. The wire gauze shall be wrapped in suitable rust preventing material and thereafter packed as per the requirements of the buyer. Unless otherwise required by the buyer, each package shall be clearly marked with the following details:

- Manufacturer's name
- Width \times length and
- Gauze designation and diameter of wire used.

5. The wire gauze shall be packed in accordance with the stipulation of the buyer in this regard and in such a manner as to ensure the safe arrival of the wire gauze to the destination without any damage.

5.1. The packages weighing upto 50 kg. shall also be able to withstand a drop from a height of 190 cm. without any damage to the contents inside or package itself. The packages shall also be adequately protected against adverse effects of weather and moisture contamination.

III CUTLERY

1. SPECIFICATION FOR BREAD KNIVES

1. The knives shall be manufactured from suitable equality of steel which shall be able to satisfy the requirements given in the subsequent clauses. The handles shall be manufactured from seasoned timber, plastic, bone, aluminium, stainless steel, german silver, ivory or horn.

2. Shape and dimensions of the knives shall be subject to the agreement between the buyer and the exporter.

3. The knives shall also satisfy the following constructional details:—

(a) The blades shall be suitably forged and shall be normalised. The blades shall then be hardened and tempered to give suitable hardness.

(b) Tangs shall be well drawn out and the scales shall fit closely to the tang throughout its length and shall be secured by means of copper, brass or mild steel rivets.

(c) the handle scales shall be flush with the tang throughout the length.

(d) Blades shall be free from cracks, seames, flaws, scales, pits, burrs and other defects. They shall uniformly taper towards the cutting edge and shall not have chisel edge. Blades shall also be properly ground.

4. Blades shall be well and suitably hardened and tempered to attain a hardness within the range of 450—550 VPN.

5. With the sample knives selected, six full blows shall be struck from a height of 250 mm. on an aluminium block or on a block of well seasoned timber. The blades shall be struck in such a manner that practically the entire length of the cutting edge hits the surface of the test block. The cutting edge shall not show any sign of distortion after the test nor shall there be any damage to any other part of the blade.

6. The blades shall also be flexible enough so that they do not show any sign of damage or permanent set in usage.

7. Plastic handles.

7.1. The plastic material shall be free from deleterious substances and shall not be so inflammable as to burst into flame when a lighted match is applied to it.

7.2. The knife fitted with plastic handles shall be immersed for one hour in a boiling 5 percent soap-solution then rinsed immediately in water at 15° to 20°C., and immediately re-immersed completely in boiling water for one hour. The knife shall then be rinsed again in water at 15° to 20°C. This procedure shall be repeated four times. During or on completion of the test, the handle shall not show any sign of cracking, chipping or discolouring of the plastics. The tang shall neither become loose nor shall there be any other damage.

8. Unless otherwise required by the buyer, each carton containing the knives shall carry the name of the manufacturer or the brand name, description of product, the number of knives in the carton, country of origin and the blades of knives shall carry the name of the manufacturer or brand name and the country of origin.

9. The blades shall be coated with a suitable mineral jelly or varnish to protect them from rust. Wooden handle shall be smeared with oil. Each of the knives shall then be wrapped in paper of suitable quality and packed in cartons as per requirements of the buyer.

10. Knives contained in the cartons shall be finally packed in accordance with the stipulation of the buyer in this regard and in such a manner as to ensure the safe arrival of the knives to the destination without any damage.

10.1. The packages weighing upto 50 kg. shall also be able to withstand a drop from a height of 190 cm. without any damage to the contents inside or package itself. The packages shall also be adequately protected against adverse effects of weather and moisture contamination.

2. SPECIFICATION FOR BUTCHERS' KNIVES

1. The knives shall be manufactured from suitable quality of steel which shall be able to satisfy the requirements given in the subsequent clauses. The handles shall be manufactured from seasoned timber, plastic, bone, aluminium, stainless steel, german silver, ivory or horn.

2. Shape and dimensions of knives shall be subject to agreement between the buyer and the exporter.

3. The knives shall satisfy the following constructional details:—

- (a) The blades shall be suitably forged and shall be normalised. The blades shall then be hardened and tempered to give suitable hardness.
- (b) Tangs shall be well drawn out and the scales shall fit closely to the tang throughout its length and shall be secured by means of copper, brass or mild steel rivets.
- (c) The handle scales shall be flush with the tang throughout its length.
- (d) Blades shall be free from cracks, seams, flaws, scales, pits, burrs and other defects. They shall uniformly taper towards the cutting edge and shall not have chisel edge. Blades shall also be properly ground.

4. Blades shall be well and suitably hardened and tempered to attain a hardness within the range of 600—700 VPN. The testing point shall be as near as practicable to the cutting edge.

5. With the sample knives selected, six full blows shall be struck from a height of 250 mm on a aluminium block or on a block of well seasoned timber. The blades shall be struck in such a manner that practically the entire length of the cutting edge hits the surface of the test block. The cutting edge shall not show any sign of distortion after the test nor shall there be any damage to any other part of the blade.

6. The blade shall be flexible enough so that they do not show any sign of damage or permanent set in usage.

7. Plastic handles.

7.1. The plastic material shall be free from deleterious substance and shall not be so inflammable as to burst into flame when a lighted match is applied to it.

7.2. The knife fitted with plastic handles shall be immersed for one hour in a boiling 5 percent soap-solution then rinsed immediately in water at 15° to 20°C, and immediately re-immersed completely in boiling water for one hour. The knives shall then be rinsed again in water at 15° to 20°C. This procedure shall be repeated four times. During or on completion of the test, the handle shall not show any sign of cracking, chipping or discolouring of the plastics. The tang shall neither become loose nor shall there be any other damage.

8. The blades shall be coated with a suitable mineral jelly or varnish to protect from rust. Wooden handles shall be smeared with oil.

8.1. Unless otherwise required by the buyer blades of knives shall carry name of the manufacturer or brand name, country of origin and shall be wrapped in a tissue paper and packed in cartons carrying the following information:

- (a) name of the manufacturer or brand name,
- (b) description of the product,
- (c) quantity, and
- (d) country of origin.

9. Knives contained in the cartons shall be finally packed in accordance with the stipulation of the buyer in this regard and in such a manner as to ensure safe arrival of the blades of knives to the destination without any damage.

8.1. The packages weighing upto 50 kg shall also be able to withstand a drop from a height of 190 cm. without any damage to the contents inside or the package itself. The packages shall also be adequately protected against adverse effects or weather and moisture contamination.

3. SPECIFICATION FOR BUTTER KNIVES AND FISH KNIVES

1. The knives shall be manufactured from Stainless Steel Electroplated Nickel Silver or Brass. Knives made of brass shall be plated with either of the following:—

- (a) Nickel,
- (b) Nickel and Chromium,
- (c) Silver.

2. Shape and dimensions of the knives shall be subject to agreement between the buyer and the exporter. When the knives are required to be supplied in sets, the design of the handle and the general appearance of the items in a set shall match. The cutting teeth in case of fish knives shall be properly formed.

3. The knives shall be forged, pressed or cast to shape in one piece. The forged knife shall have a forged handle and the pressed knife shall have a pressed handle.

4. The knives shall be free from burrs, seams, cracks or other manufacturing and surface defects. The blade and the handle of the knife shall be in good alignment. The knives shall be finished smooth and bright all over.

5. The surface of the blade of the knife shall be wiped thoroughly with hot water using a soft cloth. The blade shall not show any sign of corrosion when it is immersed in a 5 percent (v/v) solution of acetic acid for a period of 12 hours.

6. In case of plated knives, an area of not more than 6.5 sq. cm. of the plated surface shall be rubbed rapidly and firmly for 15 seconds with a smooth metal implement (e.g. a copper coin) used edgewise and broad side. The pressure shall be sufficient to burnish the film of plating at every stroke, but no so great as to cut the deposit. The burnished area shall then be visually examined. The adhesion of the plating shall be deemed adequate if there is no indication of the deposit becoming detached from the base metal.

7. Unless otherwise required by the buyer each knife shall carry the name of the manufacturer or brand name and shall be wrapped in a tissue paper or wax paper and packed in card board box carrying the following information:

- (a) Name of the manufacturer or brand name
- (b) description of the product
- (c) quantity and
- (d) country of origin

8. Knives contained in the cartons shall be finally packed in accordance with the stipulation of the buyer in this regard and in such a manner as to ensure the safe arrival of the knives to the destination without any damage.

8.1. The packages weighing upto 50 kg. shall also be able to withstand a drop from a height of 190 cm. without any damage to the contents inside or the package itself. The packages shall also be adequately protected against adverse effects of weather and moisture contamination.

4. SPECIFICATION FOR CARVING KNIVES

1. The knives shall be manufactured from suitable quality of steel which shall be able to satisfy the requirements given in the subsequent clauses. The handles shall be manufactured from seasoned timber, aluminium, stainless steel, german silver, ivory, horn, plastic or brass.

2. Shape and dimensions of knives shall be subject to agreement between the buyer and the exporter.

3. The knives shall also satisfy the following constructional details:—

- (a) The blades shall be suitably forged and shall be normalised. The blades shall then be hardened and tempered to give suitable hardness.

- (b) Tangs shall be well drawn out and the scales shall fit closely to the tang throughout its length except in case of folding knives where the 'tangs' shall be replaced by mounting blocks, and shall be secured by means of copper/brass/mild steel rivets.
- (c) The handle scale shall be flush with the tang throughout the length.
- (d) Blades shall be free from cracks, seams, flaws, scales, pits, burrs and other defects. They shall not have chisel edge. Blades shall also be properly ground.

4. Blades shall be well and suitably hardened and tempered to attain a hardness within the range of 600—700 VPN. The testing point shall be as near the cutting edge as practicable.

5. With the sample knives selected, six full blows shall be struck from a height of 250 mm. on an aluminium block or on a block of well seasoned timber. The blades shall be struck in such a manner that practically the entire length of the cutting edge hits the surface of the test block. The cutting edge shall not show any sign of distortion after the test nor shall there be any damage to any other part of the blade.

6. The blades shall be flexible enough so that they do not show any sign of damage or permanent set in usage.

7. Plastic handles.

7.1. The plastic material shall be free from deleterious substances and shall not be so inflammable as to burst into flame when a lighted match is applied to it.

7.2. The knife fitted with plastic handle shall be immersed for one hour in a boiling 5 per cent soap-solution then rinsed immediately in water at 15° to 20°C and immediately re-immersed completely in boiling water for one hour. The knife shall then be rinsed again in water at 15° to 20°C. This procedure shall be repeated four times. During or on completion of the test, the handle shall not show any sign of cracking, chipping or discolouring of plastics. The tang shall neither become loose nor shall there be any other damage.

8. Unless otherwise required by the buyer, each carton containing the knives shall carry the name of the manufacturer or the brand name, description of product, number of knives in the carton and the country of origin.

9. The blades shall be coated with a suitable mineral jelly or varnish to protect them from rust. Wooden handles shall be smeared with oil. Each of the knives shall then be wrapped in paper of suitable quality and packed in cartons.

10. Knives contained in the cartons shall be finally packed in accordance with the stipulation of the buyer in this regard and in such a manner as to ensure the safe arrival of the knives to the destination without any damage.

10.1. The packages weighing upto 50 kg. shall also be able to withstand a drop from a height of 190 cm. without any damage to the contents inside or the pack shall be manufactured from seasoned timber, plastic, bone, aluminium, stainless steel, german silver, ivory or horn.

5. SPECIFICATION FOR COOK'S KNIVES

1. The knives shall be manufactured from suitable quality of steel which shall be able to satisfy the requirements given in the subsequent clauses. The handles shall be manufactured from seasoned timber, plastic, bone, aluminium, stainless steel, german silver, ivory or horn.

2. Shape and dimensions of the knives shall be subject to the agreement between the buyer and the exporter.

- 3. The knives shall also satisfy the following constructional details :
 - (a) The blades shall be suitably forged and shall be normalised. The blades shall then be hardened and tempered to give suitable hardness.
 - (b) Tangs shall be well drawn out and the scales shall fit closely to the tang throughout its length and shall be secured by means of copper, brass or mild steel rivets.
 - (c) The handle scales shall be flush with the tang throughout the length.

(d) Blades shall be free from cracks, seams, flaws, scales, pits, burrs, and other defects. They shall uniformly taper towards the cutting edge and shall not have chisel edge. Blades shall also be properly ground.

4. Blades shall be well and suitably hardened and tempered to attain a hardness within the range of 600—700 VPN. The testing point shall be as near as practicable to the cutting edge.

5. With the sample knives selected, six full blows shall be struck from a height of 250 mm on an aluminium block or on a block of well seasoned timber. The blades shall be struck in such a manner that practically the entire length of the cutting edge hits the surface of the test block. The cutting edge shall not show any sign of distortion after the test nor shall there be any damage to any other part of the blade.

6. The blades shall also be flexible enough so that they do not show any sign of damage or permanent set in usage.

7. Plastic handles

7.1. The plastic material shall be free from deleterious substances and shall not be so inflammable as to burst into flame when a lighted match is applied to it.

7.2. The knife fitted with plastic handle shall be immersed for one hour in a boiling 5 per cent soap-solution, then rinsed immediately in water at 15° to 20°C and immediately reimmersed completely in boiling water for one hour. The knife shall then be rinsed again in water at 15° to 20°C. This procedure shall be repeated four times. During or on completion of the test, the handle shall not show any sign of cracking, chipping or discolouring of the plastics. The tang shall neither become loose nor shall there be any other damage.

8. Unless otherwise required by the buyer, each carton containing the knives shall carry the name of the manufacturer or the brand name, description of product, number of knives in the carton and country of origin.

9. The blades shall be coated with a suitable mineral jelly or varnish to protect them from rust. Wooden handle shall be smeared with oil. Each of the knives shall then be wrapped in paper of suitable quality and packed in cartons.

10. Knives contained in the cartons shall finally be packed in accordance with the stipulation of the buyer in this regard and in such a manner as to ensure the safe arrival of the knives, to the destination without any damage.

10.1. The packages weighing upto 50 kg. shall also be able to withstand a drop from a height of 190 cm. without any damage to the contents inside or the package itself. The packages shall also be adequately protected against adverse effects of weather and moisture contamination.

6 SPECIFICATION FOR FORKS (TABLE, FISH, PASTRY, SERVING)

1. The forks shall be manufactured from Brass, Nickel Silver or Stainless Steel.

2. Shapes and dimensions of forks shall be subject to the agreement between the buyer and the exporter.

3. The forks shall be manufactured in one piece either with solid handle forged or cast with prongs or pressed into shape. The forks may be manufactured also with hollow handle or with plastic handle. The design of the handles shall be as agreed to between the buyer and the exporter. When spoons, forks and knives are required to be supplied in sets, the designs on the handle and general appearance of the items in a set shall match.

4. Forks shall also meet with the following constructional details :

(a) The forks with solid or pressed handles shall be made in one piece. The fish forks with hollow handles shall have the prongs forged and tangs well drawn. The joints shall be silver soldered in case of Nickel silver hollow handles and welded in case of stainless steel hollow handles. Where the plastic handles are cast, they shall be soundly moulded with the tang in position. The tang shall be properly shaped and grooved.

- (b) The forks shall be free from burrs, scams, cracks, or other manufacturing defects. All edges shall be evenly tapered to the point. The shank and plate containing the prongs shall be in good alignment.
- (c) The forks may be supplied plated if required by the buyer. In this case the plating shall be uniform.

5. The fork shall be held rigidly from the extreme end of the shank and supported in the middle of the overall length in such a way that it is approximately horizontal. A load of one kilogram in case of pastry fork and a load of 1.5 kg. in case of table, fish and serving forks shall then be applied at the extreme end of the prongs for two minutes and then removed. The permanent deflection after removal of load shall not exceed 3 mm.

6. Plastic handles.

6.1. The plastic material shall be free from deleterious substances and shall not be so inflammable as to burst into flame when a lighted match is applied to it.

6.2. The fork fitted with plastic handle shall be immersed for one hour in a boiling 5 percent soap-solution, then rinsed immediately in water at 15 to 20°C. and immediately reimmersed completely in boiling water for one hour. The fork shall then be rinsed again in water at 15 to 20°C. This procedure shall be repeated four times. During or on completion of the test, the handle shall not show any sign of cracking, chipping or discolouring of the plastics. The tang shall neither become loose nor shall there be any other damage.

7. The following tests shall be carried out to check the adhesion of the plating:

The area of not more than 6.5 sq. cm. of the plated surface shall be rubbed rapidly and firmly for 15 seconds with a smooth metal implement. A suitable burnishing implement is a copper disc (example—copper coin) used edgewise and broadside. The pressure shall be sufficient to burnish the film of plating at every stroke, but not so great as to cut the deposit. The burnished area shall then be visually examined. The adhesion of the plating shall be deemed adequate if there is no indication of the deposit becoming detached from the base metal.

8. Unless otherwise required by the buyer each fork shall be marked with the name of the manufacturer or the brand name and the country of origin and these shall be wrapped in a tissue paper and packed in card box having the following information:

- (a) name of the manufacturer or the brand name,
- (b) material,
- (c) quantity, and
- (d) country of origin.

9. Forks contained in the carton shall be finally packed in accordance with the stipulation of the buyer in this regard and in such a manner as to ensure the safe arrival of the forks, to the destination without any damage.

9.1. The packages weighing upto 50 kg. shall also be able to withstand a drop from a height of 190 cm. without any damage to the contents inside or the package itself. The packages shall also be adequately protected against adverse effects of weather and moisture contamination.

7. SPECIFICATION FOR POCKET KNIVES

1. The knives shall be manufactured from suitable quality of steel which shall be able to satisfy the requirements given in the subsequent clauses. The handles shall be manufactured from seasoned timber, plastic, bone, steel, ivory or horn.

2. Shape and dimensions of knives shall be subject to the agreement between the buyer and the exporter.

3. The knives shall satisfy the following constructional details:

- (a) The blades shall be suitably forged and shall be normalised, or punched from suitable quality of steel and shall be hardened and tempered to give the desired hardness.
- (b) Tangs shall be well drawn out and the scales shall fit closely to the tang throughout its length except in the case of folding knives where

the 'tangs' shall be replaced by 'mounting blocks' and shall be secured by means of copper, brass, or mild steel rivets. The rivet heads shall be finished flush with scales on both sides.

- (c) The handle scales shall be flush with the tang throughout the length.
- (d) Blades shall be free from cracks, seams, flaws, pits, burrs and other defects. They shall uniformly taper towards the cutting edge and shall not have chisel edge. Blades shall also be properly ground and shall be free from rough grinding marks and finished bright all over.

4. Blades shall be well and suitably hardened and tempered to attain hardness equivalent to the range of 500—550 VPN. The hardness shall be tested as near as practicable to the cutting edge.

5. With the sample knives selected, six full blows shall be struck from a height of 250 mm. on an aluminium block or on a block of well seasoned timber. The blades shall be struck in such a manner that practically the entire length of the cutting edge hits the surface of the test block. The cutting edge shall not show any sign of distortion after the test nor shall there be any damage to any other part of the blade.

6. Plastic handles.

6.1. The plastic material shall be free from deleterious substances and shall not be so inflammable as to burst into flame when a lighted match is applied to it.

6.2. The knife fitted with plastic handles shall be immersed for one hour in a boiling 5 per cent soap-solution, then rinsed immediately in water at 15° to 20°C. and immediately reimmersed completely in boiling water at 15° to 20°C. This procedure shall be repeated four times. During or on completion of the test, the handle shall not show any sign of cracking, chipping or discolouring of the plastics. The tang shall neither become loose nor shall there be any other damage.

7. The blades shall be coated with a suitable mineral jelly or varnish to protect them from rust. Wooden handles shall be smeared with oil. Each of the knives shall then be wrapped in paper of suitable quality and packed in cartons as per requirements of the buyer.

8. Unless otherwise required by the buyer blades shall carry the name of the manufacturer or the brand name, the country of origin and these shall be packed in cartons carrying the following information :

- (a) name of the manufacturer or the brand name,
- (b) description of the product,
- (c) quantity, and
- (d) country of origin.

9. Knives contained in the cartons shall be finally packed in accordance with the stipulation of the buyer in this regard and in such a manner as to ensure the safe arrival of the knives, to the destination without any damage.

9.1. The packages weighing upto 50 kg. shall also be able to withstand a drop from a height of 190 cm. without any damage to the contents inside or the package itself. The packages shall also be adequately protected against adverse effects of weather and moisture contamination.

8. SPECIFICATION FOR SPOONS

1. The spoons shall be manufactured from Brass or Nickel Silver or Stainless Steel.

2. Shape and dimensions of spoons shall be subject to agreement between the buyer and the exporter.

3. Spoons shall also meet with the following constructional details :

- (a) The design of the handles of spoons shall be as agreed to between the buyer and the exporter. When spoons, forks and knives are required to be supplied in sets, the design of the handles and the general appearance of the items in a set shall match.

- (b) The spoons shall be forged or cast or pressed to shape in one piece. The forged spoon shall have a solid handle and the pressed spoons shall have pressed handles.
- (c) The spoons shall be free from burrs, seams, cracks or other manufacturing and surface defects. All edges shall be well rounded off.
- (d) The handle and bowl shall be in good alignment.
- (e) Spoons may be supplied plated if so required by the buyer and plating shall be uniform and a suitable test shall be conducted to check the adhesion of the plating.

4. Load Test.—The spoon shall be held rigidly from the extreme end of the shank and supported in the middle of the overall length in such a way that it is approximately horizontal. A load as given in Table I below shall then be applied at the extreme end of the bowl for two minutes and then removed. The permanent deflection shall be measured after removal of the load. It shall not exceed the values given in the said Table.

TABLE I

Type of spoon	Solid handle spoons		Pressed handle spoons	
	Load kg.	Perma- nent deflection mm.	Load kg.	Perma- nent deflection mm.
Serving spoon, large.	2.5	8	1.5	8
Serving spoon.	1.5	8	0.8	8
Dessert spoon.	1.5	8	0.8	8
Tea spoon.	1.0	8	0.4	5
Coffee spoon.	1.0	8	0.4	5
Soup spoon.	1.5	8	0.8	8
Mustard spoon.	1.0	8	0.4	5
Salt spoon.	1.0	8	0.4	5

5. The adhesion test shall be carried out as below.

5.1. An area of not more than 6.5 sq. cm. of the plated surface shall be rubbed rapidly and firmly for 15 seconds with a smooth metal implement. A suitable burnishing implement is a copper disc (for example a copper coin) used edge-wise, and broadside. The pressure shall be sufficient to burnish the film of plating at every stroke, but not so great as to cut the deposit. The burnished area shall then be visually examined. The adhesion of the plating shall be deemed adequate if there is no indication of the deposit becoming detached from the base metal.

6. Unless otherwise required by the buyer each spoon shall be marked with the name of the manufacturer, the country of origin and shall be wrapped in a tissue paper and packed in cardboard boxes carrying the following information :

- (a) name of the manufacturer or the brand name.
- (b) description of the product.
- (c) quantity, and
- (d) country of origin.

7. Spoons contained in the carton shall be finally packed in accordance with the stipulation of the buyer in this regard and in such a manner as to ensure the safe arrival of the spoons, to the destination without any damage.

7.1. The packages weighing upto 50 kg. shall also be able to withstand a drop from a height of 190 cm. without any damage to the contents inside or the package itself. The packages shall also be adequately protected against adverse effects of weather and moisture contamination.

9. SPECIFICATION FOR TABLE KNIVES, DESSERT KNIVES, FRUIT KNIVES

1. The blades of knives shall be manufactured from stainless steel and handles from stainless steel, Nickel silver or plastic.

2. The stainless steel knives may be supplied with—

- (a) Stainless steel solid handle forged with blade,
- (b) Stainless steel or nickel silver hollow handle, or
- (c) Plastic handle.

3. Shape and dimensions of knives shall be subject to agreement between the buyer and the exporter.

4. The design of the handles of the knives shall be as agreed to between the buyer and the exporter. When spoons, forks and knives are required to be supplied in sets the design of the handles and general appearance of the items in a set shall match.

5. Knives shall also meet with the following constructional details :

- (a) Knives with solid handles shall be forged in one piece,
- (b) Knives with hollow handles shall have the blades forged and the tangs well drawn. The scale shall fit closely to the tang and shall be finished flush smooth. In case of the hollow handles made of stainless steel, the joints shall be welded and in other cases soldered,
- (c) In case of cast plastic handles, they shall be moulded with the tang in position. The tang shall be properly shaped and grooved, and
- (d) The blades shall be properly ground and all sharp edges rounded off. The cutting edge shall be sharp and ready for use. These shall be suitably hardened and tempered.

6. The knives shall be free from cracks, seams, flaws, scales, pits, burrs, rough grind marks and other defects. The blades and handles shall be in good alignment so that when placed on the table, the blade shall not touch the surface of the table.

7. If required by the purchaser the hollow handles made of nickel silver may be plated and in this case plating shall be uniform.

8. Plastic handles.

8.1. The plastics material shall be free from deleterious substances and shall not be so inflammable as to burst into flame when a lighted match is applied to it.

8.2. The knife fitted with plastic handles shall be immersed for one hour in a boiling 5 percent soap-solution, then rinsed immediately in water at 15° to 20°C and immediately reimmersed completely in boiling water for one hour. The knife shall then be rinsed again in water at 15 to 20°C. This procedure shall be repeated four times. During or on completion of the test, the handle shall not show any sign of cracking, chipping or discolouring of the plastics. The tang shall neither become loose nor shall there be any other damage.

9. When tested for hardness, it shall not be less than 450—500 VPN. The readings shall be taken along the centre line of the blade within 25 mm of the bolster.

10. The cutting edge of the knife shall be made to strike three full blows in succession from a height of 200 mm on an aluminium block of not less than 99 percent purity or a block of seasoned teakwood. The cutting edge shall not show any sign of damage.

11. The blades shall be bent to lie on the periphery of a wooden block segment of 100 mm radius and at least 22 mm in thickness. The blade shall not show any permanent set or damage on completing of the test.

12. Unless otherwise required by the buyer each knife shall carry the name of the manufacturer or the brand name and shall be wrapped in a tissue paper or wax paper and packed in cartons carrying the following information.

- (a) name of the manufacturer or brand name,
- (b) description of the product,

- (c) quantity, and
- (d) country of origin.

13. Knives contained in the cartons shall be finally packed in accordance with the stipulation of the buyer in this regard and in such a manner as to ensure the safe arrival of the knives to the destination without any damage.

13.1. The packages weighing upto 50 kg. shall be able to withstand a drop from a height of 190 cm. without any damage to the contents inside or the package itself. The packages shall also be adequately protected against adverse effects of weather and moisture contamination.

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▲ C. BANERJEE, Joint Secy.